OCEAN GALES AND STORMS, AUGUST 1939

Vessel	Voyage		Position at time of lowest barometer		Gale began August	Time of lowest barometer, August	Gale ended August	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Direction and highest force of wind	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN			° ′	° ′				*Millibars*					
Nerissa, Br. S. S.	St. Thomas	New York	20 50 N.	66 08 W.	8	5a, 8	8	1,014.6	ENE.	ENE, 5	ESE.	ENE, 6	ENE-ESE.
Bruxelles, Belg. S. S.	Antwerp	Havana	46 36 N.	9 06 W.		11a, 8	8	1,018.0		NNW, 9		NNW, 9	
Gulfwing, Am. M. S.	Philadelphia	Las Piedras	24 00 N.	69 45 W.	9	2p, 9	9	1,010.2	E.	ESE, 8	SE.	ESE, 8	E-SE.
Poseidon, Du. S. S.	Curacao	New York	24 53 N.	74 20 W.	10	4a, 10	10	1,008.9	ENE.	ENE, 6	ESE.	ENE, 8	None.
Flora, Du. S. S.	Pto Cabello	do	23 30 N.	74 00 W.	10	8a, 10	11	1,010.0	S.	SW, 4	ESE.	E, 9	NE-SW-SSE.
Cities Service Koolmotor, Am. S. S.	Philadelphia	Port Arthur	28 18 N.	78 42 W.	11	2p, 11	11	1,010.2	E.	E, 7	E.	E, 8	None.
El Estero, Am. S. S.	Galveston	Norfolk	27 30 N.	79 50 W.	11	4p, 11	11	1,001.0	NNE.	NNE, 9	ESE.	NNE, 9	NNE-ESE.
Good Gulf, Belg. M. S.	Antwerp	Port Arthur	32 07 N.	62 17 W.	15	11a, 15	15	1,013.5	SE.	S, 8	W.	S, 8	SE-SW.
Steel Scientist, Am. S. S.	Gibraltar	Boston	40 30 N.	61 00 W.	18	2p, 18	18	999.7	SSE.	NE, 10	N.	NE, 10	ENE-N.
Arundo, Du. S. S.	Wabana	Rotterdam	49 13 N.	44 52 W.	21	Noon, 21	21	[1] 999.9		W, 8		W, 8	W-NW.
Den Haag, Du. M. S.	Baytown, Tex.	do	[2] 46 43 N.	35 50 W.	25	2a, 27	27	1,009.2	NW.	N, 7	NW.	NW, 8	
American Banker, Am. S. S.	London	New York	47 40 N.	34 05 W.	29	4a, 30	31	985.4	ESE.	W, 10	N.	NW, 10	WSW-NW
Gulftide, Am. S. S.	Port Arthur	do	39 45 N.	73 42 W.	29	4a, 30	30	1,002.4	NE.	NE, 8	NE.	NE, 8	
W. C. Fairbanks, Am. S. S.	New Orleans	do	39 56 N.	73 52 W.	28	4a, 30	30	1,004.7	NE.	NE, 8	NNE.	NE, 9	
Black Gull, Am. S. S.	Rotterdam	do	47 39 N.	34 04 W.	29	5a, 30	30	983.4	SE.	WNW, 9	WNW.	WNW, 11	WSW-WNW.
Gulf of Venezuela, Am. M. S.	Port Arthur	do	38 18 N.	74 30 W.	30	7a, 30	30	1,007.8		NW, 8	NNW.	NW, 8	WNW-NNW.
Emile Francqui, Belg. S. S.	Antwerp	do	49 24 N.	24 30 W.	31	10a, 30	31	987.8		SSW, 4		WNW, 8	SSW-W.
City of Alma, Am. S. S.	Bremen	Tampa	45 12 N.	24 18 W.	30	4p, 30	31	993.3	W.	W, 9	WNW.	W, 9	WSW-WNW.
Black Gull, Am. S. S.	Rotterdam	New York	46 00 N.	39 54 W.	31	5p, 31	31	1,002.7	WSW.	W, 9	NW.	W, 9	WSW-NW.
NORTH PACIFIC OCEAN													
Nonsuco, Phil. M. S.	Los Angeles	Manila	18 54 N.	127 00 E.	1	5a, 1	2	994.2	SW.	SW, 7	SW.	SW, 7	
Toorak, Br. S. S.	do	Hong Kong	26 50 N.	154 16 E.	2	2a, 4	4	984.4	ESE.	SE, 10	S.	ESE, 11	SE-E-ESE.
Manoeran, Du. M. S.	Cebu, P. I.	Los Angeles	29 45 N.	148 48 E.	4	3p, 4	4	959.4	ENE.	N, 11	SSE.	W, 11	NE-N-W.
San Clemente Maru, Jap. M. S.	Los Angeles	Yokohama	47 00 N.	176 30 W.	4	Mdt., 3	5	1004.1	W.	WSW, 5	WNW.	W, 8	WSW-W.
Geflon, Nor. M. S.	Estero Bay	do	35 19 N.	144 37 E.	5	6a, 5	5	978.3	ESE.	ESE, 10	S.	SE, 11	E-SSE.
Chirikof, Am. S. S.	Naknek, Alaska.	San Francisco	53 17 N.	158 27 W.	8	8a, 8	8	992.2	N.	N, 8	W.	WNW, 8	NNE-NW.
Capella, U. S. N.	Seward	Dutch Harbor	57 58 N.	149 55 W.	8	11p, 8	9	993.2	ESE.	SE, 8	S.	SE, 8	ESE-S.
Steelmaker, Am. S. S.	Saigon	Hilo	25 12 N	128 06 E.	11	1a, 12	13	995.9	NE.	SE, 8	E.	SE, 9	NE-SE-ESE.
Cingalese Prince, Br. M. S.	San Francisco	Manila	26 20 N.	157 30 E.	13	4a, 14	14	978.3	SE.	SSW, 9	WSW.	SSW, 9	SSE-W.
Robin Hood, Am. S. S.	Shanghai	Honolulu	29 18 N.	154 16 E.	14	1p, 14	15	986.5	NNW.	SW, 8	SSE.	SSW, 9	WSW-SSW.
Meigs, U. S. A. T.	Manila	San Francisco	35 41 N.	153 20 E.	14	Noon, 15	15	985.8	ENE.	SE, 10	S.	SE, 10	ESE-S.
Potter, Am. M. S.	Hong Kong	Los Angeles	39 30 N.	152 50 E.	14	6p, 15	16	988.2	ENE.	SE, 9	S.	SE, 9	E-S.
R. J. Hanna, Am. S. S.	El Segundo	Portland, Oreg.	42 24 N.	124 42 W.	17	4p, 17	17	1015.2		N, 8	N.	N, 8	NW-N.
Nonsuco, Phil. M. S.	Victorias, P. I.	Los Angeles	10 14 N.	131 14 E.	23	2p, 24	25	996.6	W.	SW, 7	SW.	SW, 7	WSW-SW.
Brajara, Nor. M. S.	Los Angeles	Balboa	17 42 N.	103 36 W.		5a, 31		1003.3		ESE, 8		ESE, 8	

[1] Barometer uncorrected.
[2] Position approximate.

NORTH PACIFIC OCEAN, AUGUST 1939

By WILLIS E. HURD

Atmospheric pressure.—Throughout the Aleutian region, the average pressure in August 1939 was unusually low for the month and more nearly approached the normal for March than that of midsummer. At Dutch Harbor the average barometer, 1,006.4 millibars (29.72 inches), was 4.8 millibars (0.14 inch) below the normal. Along the American coast from Juneau southward, and at the stations at Honolulu and on Midway Island, there were no marked pressure departures, but in the southwestern part of the ocean the average barometer was depressed to an unusual degree, especially at Guam, where the average for the month, 1,004.7 millibars (29.67 inches), was 5.1 millibars (0.15 inch) below the normal for August.

Extratropical cyclones and gales.—A number of LOWS crossed upper latitudes of the ocean during August, but all were of mild to moderate intensity and only two, so far as ships' reports indicate, caused gales of more than moderate force. Both of these disturbances came from Siberia and spent most of their oceanic existence, so far as their centers were concerned, in the Bering Sea.

The earlier appeared east of Kamchatka on the 3d, and on the 4th its center was near St. Paul Island. Thereafter, until the 7th, it oscillated over the eastern part of the Bering Sea. On the 8th it moved rapidly southeastward to near 50° N., 160° W., then as rapidly northward into Alaska. During most of its course it affected the weather along the central waters of the northern routes, but caused gales of force as high as 8 only on the 5th and 8th. That of the 5th was experienced by the Japanese motorship *San Clemente Maru* in 47° N., 176½° W. On the 8th the American steamer *Chirikof* had a gale near 53° N., 158° W., and the U. S. S. *Capella* reported a further gale to the eastward of Kodiak. A low-pressure reading, 992.2 millibars (29.30 inches) was observed on the *Chirikof*.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure at sea level, North Pacific Ocean, August 1939, at selected stations*

Stations	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	Millibars	*Millibars*	*Millibars*		*Millibars*	
Point Barrow	1,010.7	−1.5	1,017	26	1,001	11
Dutch Harbor	1,006.4	−4.8	1,022	12	984	18
St. Paul	1,008.5	−3.4	1,024	24	990	6, 7
Kodiak	1,008.0	−3.2	1,019	25	990	9
Juneau	1,016.6	0.0	1,030	6	1,004	3
Tatoosh Island	1,017.6	+1.7	1,025	17	1,009	9
San Francisco	1,014.0	+0.8	1,020	30	1,007	17
Mazatlan	1,011.1	+0.6	1,015	2	1,009	23, 25
Honolulu	1,014.9	−1.4	1,019	3	1,012	23
Midway Island	1,018.0	−0.6	1,025	3, 4	1,006	29
Guam	1,004.7	−5.1	1,012	6	997	20
Manila	1,004.3	−2.8	1,008	8, 9, 31	1,000	19, 25, 26
Hong Kong	1,002.0	−2.4	1,005.4	8, 21	997.6	15
Naha	1,002.7	−2.7	1,009	10, 22	979	27
Titijima	1,006.1	−1.7	1,013	18, 22	990	1
Petropavlovsk	1,007.6		1,022	18	996	27

NOTE.—Data based on 1 daily observation only, except those for Juneau, Tatoosh Island, San Francisco, and Honolulu, which are based on 2 observations. Departures are computed from best available normals related to time of observation.

The later of the two disturbances, after crossing the Bering Sea during the 15th and 16th, was centered on the 17th and 18th over the eastern Aleutians, with lowest pressure, 984 millibars (29.06 inches) at Dutch Harbor on the 18th. This cyclone was locally stormiest on the 17th, when gales of force 8 to 9 occurred within the small region near 53°–54° N., 161°–162° W., according to radio reports received from two ships. The storm during the 19th again traversed the Bering Sea on its way to the Arctic Ocean.

During the 16th to 18th strong northerly winds occurred off the California coast along the eastern slope of an oceanic HIGH. The highest velocity reported by a ship was of force 8 on the 17th.

Tropical cyclones.—A number of tropical disturbances, including typhoons and depressions, occurred in the Far East during August, and contributed to the remarkably low average barometer for the month observed at Guam, Manila, and Naha, as shown in table 1. Two of these cyclones, which originated late in July, were described by the Rev. Bernard F. Doucette, S. J., Manila, P. I., in his report in the July issue of the REVIEW. One of the storms, it may be added, that of July 28 to August 8, attained great violence on August 4–5 between 25° N., 155° E. and 36° N., 144° E., while moving northwestward toward Japan, as shown by the reports of the following vessels: British steamer *Toorak*, 4th, near 27° N., 154° E., maximum wind from the east-southeast, force 11, lowest barometer 984.4 millibars (29.07 inches); Dutch motorship *Manoeran*, 4th, near 30° N., 149° E., maximum wind from north and west, force 11, with hurricane gusts, lowest barometer 959 millibars (28.33 inches); Norwegian motorship *Gefion*, 5th, near 35° N., 145° E., maximum wind from southeast, force 11, lowest barometer 978.3 millibars (28.89 inches).

On August 12 the American steamer *Steelmaker* encountered a southeast gale of force 9, lowest barometer 995.9 millibars (29.41 inches), near 25° N., 128° E., in connection with a cyclone of which we have almost no information, but which will undoubtedly receive ample notice in the August report from Manila.

On the 10th of the month a LOW appeared to the eastward of Guam. As it moved northward it deepened, and on the 14th the British motorship *Cingalese Prince*, in 26°20′ N., 157°30′ E., had a low barometer of 978.3 millibars (28.89 inches), with a south-southwest gale of force 9. Later, on the 14th the American steamer *Robin Hood* had a similar gale, but with higher barometer, near 29° N., 154° E. This typhooon then appeared to be advancing in an almost due north direction, and on the 15th the United States Army transport *Meigs*, near 36° N., 153° E., met a southeast gale of force 10, barometer 985.8 millibars (29.11 inches). A few hours later the American motorship *Potter* had a southeast gale of force 9 about 200 miles farther northward. The typhoon was subsequently lost to observation.

On August 20 a deep depression lay over the Marianas. It took a generally northwest course, passing to the eastward of Naha, Nansei Islands, on the 27th, and entering the Yellow Sea on the 30th. At Naha our a. m. map of the 27th shows the island to have had a north gale of force 8, while the p. m. map shows a low barometer of 979 millibars (28.91 inches). At coastal stations of the Yellow Sea violent gales occurred on the 30th, accompanied by pressure readings below 982 millibars (29.00 inches).

In the American Tropics there were no disturbed conditions until the 31st, when a small depression was entered by the Norwegian motorship *Brajara* during the early morning. The ship had an east-southeast gale of force 8, barometer 1,003.3 millibars (29.63 inches), at 5 a. m., in 17°42′ N., 103°36′ W.

Fog.—Fog continued frequent in August, as in the previous July, along a great stretch of the northern routes, north of the fortieth parallel, particularly between longitudes 155° E. and 150° W., where it occurred on 20 to 35 percent or more of the days, scattered throughout the month. Fog was reported near the Alaska Peninsula on 5 days; off the Washington coast on 10 days; off Oregon on 13 days; off California on 16 days; and off Lower California on 2 days. West of Costa Rica fog was observed on the 29th and 30th.

TYPHOONS AND DEPRESSIONS OVER THE FAR EAST

By BERNARD F. DOUCETTE, S. J.

[Weather Bureau, Manila, P. I.]

Depression, August 3–6, 1939.—First appearing during the afternoon of August 3, this depression moved northeast from a position about 120 miles south of Hong Kong to the central portion of the Formosa Channel east-southeast of Amoy. It then shifted its course to the northwest, moving about 150 miles, and then inclined to the north-northeast, passing close to and northwest of Shanghai. It disappeared over the Yellow Sea, apparently of mild intensity during its short career.

Typhoon, August 7–15, 1939.—A depression very likely originating east of the Mariana Islands first made its appearance on the weather map of August 7 about 300 miles north-northeast of Guam. A westerly movement of about 700 miles during the next three days preceded an inclination to the west-northwest and an intensification to typhoon strength. On August 11, the typhoon was central about 600 miles east-by-north of Aparri, from which location it moved first northwest, then west-northwest, thus crossing Formosa (August 13) and entering China (August 14) a short distance north of Amoy. No trace of the disturbance was found on the afternoon map of August 15.

Depression, August 12–18, 1939.—A depression, apparently of mild intensity, formed far to the east-northeast of Guam and moved in a westerly direction over the ocean until it reached the region about 450 miles east of Aparri where it inclined to the north. For about 120 miles it moved in this direction, and then made a sharp turn to the east, disappearing August 18.

Depression, August 16–20, 1939.—A mild depression, as far as can be determined from available information, formed about 300 miles northwest of Guam. It moved in a northeasterly direction, then inclined to the north when it reached the 145th meridian. It did not proceed very far along this course before it gradually changed its direction to the west-northwest, passing about 100 miles south of the Bonins. It disappeared over the ocean regions east of the Nansei (Loochoo) Islands.

Observations from ships were adequate to provide complete data on all these disturbances. The typhoon especially was well located, and its intensity definitely known from observations received from the United States Army transport *Meigs*, and the steamships *Pres. Van Buren*, *Washington*, *Adrastus*, and *Marchen*. Pressure values reported showed that there certainly was a typhoon, yet the winds were not strong and dangerous. The center probably was small and could not exert its influence over long distances.

Up to August 18 very little power was manifested in the upper winds over the regions of the Far East. Over